

2016-2362

**United States Court of Appeals
for the Federal Circuit**

INTERDIGITAL COMMUNICATIONS, INC.;
INTERDIGITAL TECHNOLOGY CORP.;
IPR LICENSING, INC.; INTERDIGITAL HOLDINGS, INC.,
Plaintiffs-Appellees,

v.

ZTE CORPORATION; ZTE (USA), INC.,
Defendants-Appellants.

Appeals from the United States District Court for the District of Delaware
in Case No. 1:13-cv-00009-RGA
Judge Richard G. Andrews

BRIEF OF APPELLEES

February 27, 2017

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Claim 3 of U.S. Patent No. 7,286,847 (“the ’847 patent”) provides:

3. A wireless code division multiple access (CDMA) subscriber unit comprising:

- a circuit configured to synchronize to a pilot signal transmitted by a base station associated with a CDMA network wherein, if the circuit becomes unsynchronized to the pilot signal during an idle period of the subscriber unit, the circuit is further configured to re-synchronize to the pilot signal;

- a transmitter configured such that, when the subscriber unit is first accessing the CDMA network, the transmitter successively transmits signals generated using a portion of a code until the subscriber unit receives from the base station an indication that a transmitted one of the signals has been detected by the base station, wherein each transmission of one of the signals by the transmitter, other than a transmission of a first one of the signals, is at an increased power level with respect to a prior transmission of another one of the signals;

- the transmitter further configured such that, subsequent to the subscriber unit receiving the indication, the transmitter transmits a signal generated using a remainder of the code,

- wherein, prior to receiving the indication, the subscriber unit is not uniquely identified to the base station.

Appx171.

Claim 1 of U.S. Patent No. 7,190,966 (“the ’966 patent”) provides:

1. A wireless code division multiple access (CDMA) subscriber unit comprising:

a transmitter configured such that, when the subscriber unit is first accessing a CDMA network and wants to establish communications with a base station associated with the network over a communication channel to be indicated by the base station, the transmitter *successively transmits signals* until the subscriber unit receives from the base station an indication that a transmitted one of the signals has been detected by the base station, wherein each transmission of one of the signals by the transmitter is at an increased power level with respect to a prior transmission of one of the signals;

the transmitter further configured such that the transmitter transmits to the base station a message indicating to the base station that the subscriber unit wants to establish the communications with the base station over the communication channel to be indicated by the base station, the message being transmitted only subsequent to the subscriber unit receiving the indication,

wherein each of the successively transmitted signals and the message are generated using a same code; and

wherein each of the successively transmitted signals is shorter than the message.

Appx148-149 (emphasis added).

CERTIFICATE OF INTEREST

Counsel for Defendants-Appellees InterDigital Communications, Inc.; InterDigital Technology Corporation; IPR Licensing, Inc.; and InterDigital Holdings, Inc. certify the following:

1. The full name of the parties represented by me are:

InterDigital Communications, Inc.; InterDigital Technology Corporation; IPR Licensing, Inc.; and InterDigital Holdings, Inc.

2. The name of the real party in interest (Please only include any real party in interest NOT identified in Question 3) represented by me is:

N/A

3. All parent corporations and publicly held companies that own 10 % or more of stock in the party are:

InterDigital, Inc. (a publicly held company) is the parent corporation of InterDigital Communications, Inc. and InterDigital Holdings, Inc.

InterDigital Holdings, Inc. is the parent corporation of InterDigital Technology Corporation and IPR Licensing, Inc.

4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court (and who have not or will not enter an appearance in this case) are:

Latham & Watkins LLP: Bert Reiser, Julie M. Holloway, Ron E. Shulman, Jonathan D. Link, Michael A. David, Aaron Perez-Daple (former), Gunnar B. Gundersen (former), Ethan Park (former), Alfredo A. Perez de Alejo (former).

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Date: February 27, 2017

/s/ Maximilian A. Grant

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STATEMENT OF RELATED CASES

In *InterDigital Communications, LLC v. ITC*, 690 F.3d 1318, 1320 (Fed. Cir. 2012) (“*InterDigital I*”) (Bryson, J., joined by Mayer, J., with Newman, J., dissenting), this Court construed certain claims of U.S. Patent Nos. 7,286,847 (“the ’847 patent”) and 7,190,966 (“the ’966 patent”)—all of which are asserted in the present appeal—and vacated and remanded the International Trade Commission’s (“ITC’s”) finding of non-infringement.

In *InterDigital Communications, Inc. v. U.S. ITC*, 601 F. App’x 972, 873-74 (Fed. Cir. 2015) (“*InterDigital II*”) (Prost, C.J., joined by Mayer and Lourie, JJ.), this Court construed certain claims of two related patents, U.S. Patent Nos. 7,706,830 (“the ’830 patent”) and 8,009,636 (“the ’636 patent”)—which are not at issue in the present appeal—and affirmed the ITC’s non-infringement finding.

COUNTERSTATEMENT OF THE ISSUES

1. Whether the district court correctly construed the term “successively transmit[s/ted] signals” to mean “successively transmit[s/ted] sequences of chips or bits,” consistent with its plain meaning and this Court’s decision in *InterDigital I*, and properly rejected ZTE’s efforts to read the preferred embodiment of the ’847 and ’966 patents into the claims—the same embodiment that this Court found did not limit these same claims in *InterDigital I*.

2. Whether the district court properly denied ZTE's renewed motion for judgment as a matter of law, finding that InterDigital's expert testimony and corroborating documentation provided substantial evidence that the accused devices generate both the successively transmitted signals and the message using the "same code," as required by the asserted claims.

COUNTERSTATEMENT OF THE CASE

A. Background

1. The Parties

Founded in 1972 and headquartered in Wilmington, Delaware, InterDigital is a leader in researching and developing wireless technologies for mobile devices, networks, and services. For example, it placed the first digital wireless call to the FCC Chairman in 1985; developed and demonstrated a broadband solution delivering video over five different wireless networks around the world in 1997; developed a protocol stack for a chipset used in over 350 million wireless devices worldwide in 1999 and 2000; conducted the world's first demonstration of WiFi over dynamically selected TV white space in 2012; and demonstrated a working fifth generation (5G) wireless access platform and network architecture in 2016. InterDigital employs approximately 350 people, about half of whom are engineers, scientists and mathematicians, and has spent close to \$1 billion on technology research and development since 2001. Among other things, that research and

development has resulted in a number of patents directed to advanced cellular technology.

ZTE Corporation is one of the world's largest manufacturers of telecommunications equipment. Appx6958 (103:14-16). It designs, develops, manufactures, imports, and sells wireless devices with 3G capabilities, including popular devices such as the 4G Hotspot, Avail, Flash, and JetPack 890L. Appx363 ¶ 5.

2. The Technology

Wireless networks must be able to distinguish transmissions sent by different users on the network. In early wireless networks, this was done either by assigning communications sessions to a particular time, known as time-division multiple access ("TDMA"), or to a particular section of the frequency spectrum, known as frequency-division multiple access ("FDMA"). Appx7061-7063 (206:21-208:23). This case involves a technique for distinguishing signals in 3G networks known as code-division multiple access ("CDMA"). *See generally InterDigital I*, 690 F.3d at 1320-21 (summarizing CDMA fundamentals).

CDMA networks separate wireless signals through the use of "spreading codes." Appx144 (2:1-16); Appx7063-7065 (208:24-210:8). Spreading codes are "unique code[s] ... used to encode and decode the data-carrying signal that transmits the telephonic messages between the cellphone and the base station."

InterDigital I, 690 F.3d at 1320-21. They have a much higher frequency than the baseband data signal the device wishes to send. Appx144 (2:3-5). In order to encode a data carrying signal with the spreading code, the user's device "multiplie[s]," or modulates, "the data signal" by the spreading code. Appx144 (2:3-5). "If a code carries no data, *i.e.*, if it is not modulated with a data signal," it simply means "there is no signal whose bandwidth is increased." *InterDigital I*, 690 F.3d at 1326. But a spreading code may also convey other information about a user device that is useful to the cellular system, such as coding and timing information. Appx9718-9720.

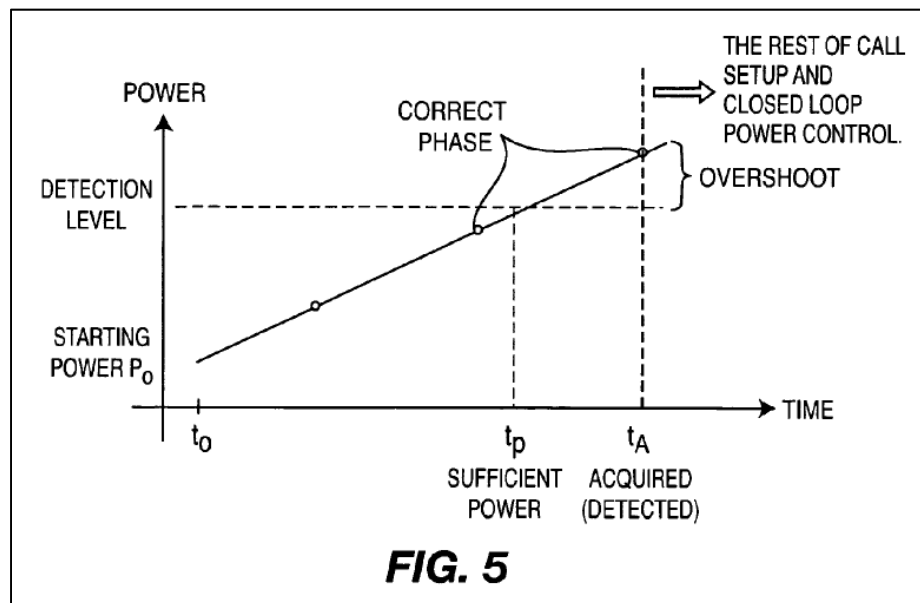
Spreading codes permit multiple CDMA devices to communicate over the same part of the frequency spectrum at the same time, improving efficiency. Appx144 (2:1-16); Appx7064-7065 (209:2-210:8). Nonetheless, CDMA may also lead to "a gradual degradation of the performance of the system as the number of users increase." Appx144 (2:19-20). Users perceive signals encoded for other users as noise, and noise makes it more difficult for user devices to receive signals from the base station. If a "subscriber unit begins transmitting at a power level that is too high, it may interfere with the communications of other subscriber units and may even terminate the connections of other subscriber units." *Id.* (2:46-50). Therefore, "it is extremely important in wireless CDMA communication systems to control the transmission power of all subscriber units." *Id.* (2:28-31).

B. The '847 And '966 Patents

In order to minimize power expenditure by user devices, the '847 and '966 patents describe initially transmitting signals at a power level beneath the base station's detection threshold and gradually increasing the power of the signals to find the lowest possible power at which the subscriber unit can communicate with the base station. Appx145 (3:19-43); Appx146-148 (6:1-8:10:53). This process is known as "power ramp-up." Appx147 (3:38-39); *see generally InterDigital I*, 690 F.3d at 1321-22 (summarizing '847 and '966 patent disclosures). The '847 and '966 patents derive from a common application and share a common specification.¹

1. The First Embodiment

The "first embodiment of the present invention" is illustrated in Figure 5:



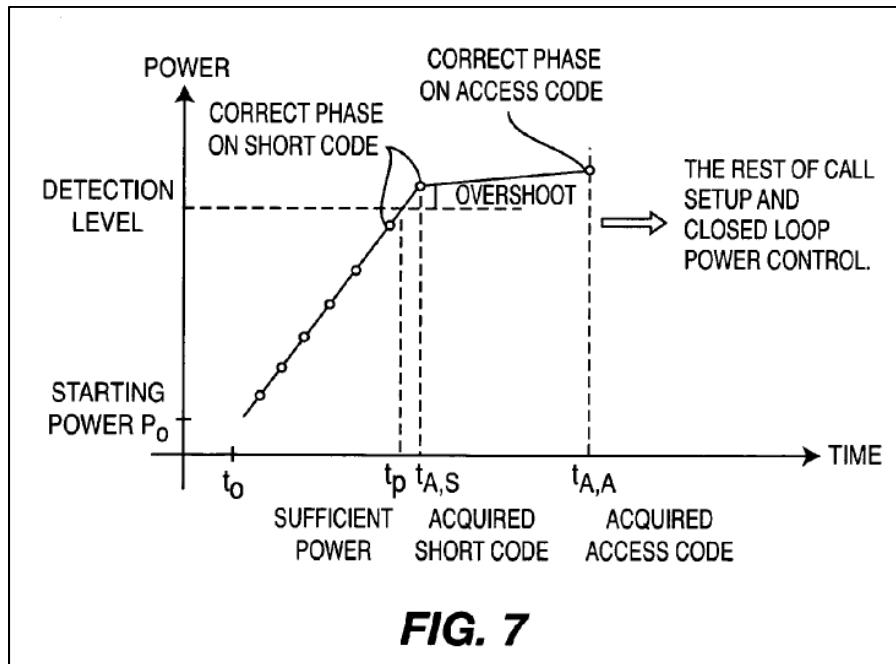
¹ For convenience, references are to the '966 patent unless otherwise noted.

Appx137 (Fig. 5); *see* Appx146-147 (6:1-7:25) (describing first embodiment); *see also* Appx136 (Fig. 4) (flowchart of first embodiment). To find the appropriate level of transmission power, the user's device begins transmitting signals at a "starting power" (P_0) which is "guaranteed to be less than the power level required for detection by the base station [$P(t_p)$]." Appx147 (7:12-15). The invention gradually ramps up the power of the signals until the base station acknowledges the signals. Appx 146-147 (6:57-62, 7:15-25). In this way, the invention reduces interference by reducing the power used to communicate over the network. Appx147 (6:5-6). However, because the user's device continues to increase power until it receives an acknowledgement from the base station, the power level the user's device eventually settles on may exceed, or "overshoot," the minimum power level necessary to communicate with the base station. Appx147 (7:26-34).

2. The Preferred Embodiment

To reduce power "overshoot," the patents-in-suit also disclose a "preferred embodiment of the present invention" in which power ramp-up is performed using a series of "short codes." Appx147 (7:41-44). A "short code" is detected more quickly than other codes (thereby "limit[ing] power overshoot and interference") because it is any "sequence for detection by the base station which has a much shorter period than a conventional spreading code." Appx145 (3:23-35); *see also* Appx148 (9:7-13); *InterDigital I*, 690 F.3d at 1321.

Figure 7 illustrates this embodiment:



Appx137 (Fig. 7); *see also* Appx147-148 (7:41-10:60) (describing preferred embodiment); Appx138-139 (Figs. 6A, 6B) (flowchart of preferred embodiment).

The specification cautions that, “[a]lthough the invention has been described in part by making detailed reference to the preferred embodiment, such detail is intended to be instructive rather than restrictive.” Appx148 (10:54-57).

3. The Asserted Claims

InterDigital alleged infringement of claims 3 and 5 of the '847 patent and claims 1, 3, 6, 8, 9, and 11 of the '966 patent. Appx16251-16257. Each claim is directed to a device for establishing communications between a “subscriber unit” (such as a cellular phone or tablet) and a base station in a CDMA network. *See* Appx148-149; Appx171. Specifically, each claim describes a subscriber unit that

successively transmits “signals” at gradually increasing power levels until it receives an acknowledgment from the base station indicating one such “signal” has been detected. The subscriber unit then sends a follow-up message to establish communications. The claims provide that the successively transmitted signals and the subsequent message are generated using the “same code” or from portions of the same code. *See id.*

The ’847 and ’966 patent claims also recite certain characteristics relating to the length and content of the successively transmitted signals. First, none of the asserted claims provides that the successively transmitted signals do not carry “data.” *See* Appx171; Appx148-149. In contrast, several *unasserted* claims of the ’847 patent expressly state that the repeatedly transmitted signals “carry no data” (claims 1 and 2), are “carrying no data” (claim 4), are “not providing data” (claims 7 and 10), and “do[] not include data” (claim 8). Appx170-172. Second, the asserted ’966 patent claims constrain the length of the signals, reciting that “each of the successively transmitted signals is shorter than the message.” Appx149 (cl. 1); *see also* Appx149 (cl. 3, 6, 8, 9, 11). In contrast, the asserted ’847 patent claims include no constraints on the length of the signals. Appx171 (cl. 3, 5).

Asserted claim 3 of the ’847 patent provides:

3. A wireless code division multiple access (CDMA) subscriber unit comprising:

- a circuit configured to synchronize to a pilot signal transmitted by a base station associated with a CDMA network wherein, if the circuit becomes unsynchronized to the pilot signal during an idle period of the subscriber unit, the circuit is further configured to re-synchronize to the pilot signal;
 - a transmitter configured such that, when the subscriber unit is first accessing the CDMA network, the transmitter *successively transmits signals* generated using a portion of a code until the subscriber unit receives from the base station an indication that a transmitted one of the signals has been detected by the base station, wherein each transmission of one of the signals by the transmitter, other than a transmission of a first one of the signals, is at an increased power level with respect to a prior transmission of another one of the signals;
- the transmitter further configured such that, subsequent to the subscriber unit receiving the indication, the transmitter transmits a signal generated using a remainder of the code,
- wherein, prior to receiving the indication, the subscriber unit is not uniquely identified to the base station.

Appx171 (emphasis added).

Asserted claim 1 of the '966 patent provides:

1. A wireless code division multiple access (CDMA) subscriber unit comprising:
 - a transmitter configured such that, when the subscriber unit is first accessing a CDMA network and wants to establish communications with a base station associated with the network over a communication channel to be indicated by the base station, the transmitter *successively transmits*

signals until the subscriber unit receives from the base station an indication that a transmitted one of the signals has been detected by the base station, wherein each transmission of one of the signals by the transmitter is at an increased power level with respect to a prior transmission of one of the signals;

the transmitter further configured such that the transmitter transmits to the base station a message indicating to the base station that the subscriber unit wants to establish the communications with the base station over the communication channel to be indicated by the base station, the message being transmitted only subsequent to the subscriber unit receiving the indication,

wherein each of the successively transmitted signals and the message are generated using a same code; and

wherein each of the successively transmitted signals is shorter than the message.

Appx148-149 (emphasis added).

C. Prior ITC Proceedings

1. The 613 Investigation And Appeal (*InterDigital I*)

In 2012, this Court construed the asserted claims of the '847 and '966 patents in *InterDigital I*. In that ITC investigation, the ALJ construed the term “signal” to mean “a sequence of chips that is transmitted” and similarly construed the term “code” to mean “a sequence of chips.” See Appx18240-18241 (Final Initial and Recommended Determinations at 37-38 (“Initial Determination”), *In re Certain 3G Mobile Handsets & Components*, Inv. No. 337-TA-613 (ITC Aug. 14,

2009)); Appx18470-18471, Appx18489-18490 (*InterDigital I* Replacement Brief for Appellants (“*InterDigital I* Appellants’ Br.”) 12-13, 31-32 (Fed. Cir. Jan. 26, 2011), 2011 WL 598413); *see also InterDigital I*, 690 F.3d at 1323 (explaining that a “chip” is a binary value). But, relying on the specification, the ALJ imposed two additional limitations. First, the ALJ limited the terms “code” and “signal” to a “spreading code” that is “used or intended to be used to increase the bandwidth of another signal.” *InterDigital I*, 690 F.3d at 1323. Second, finding that the preferred embodiment further limited the claims, the ALJ held that the power levels of the successively transmitted signals must increase “continuously,” not just in discrete increments. *Id.* at 1323, 1327-28.

On appeal, this Court rejected the ALJ’s reading in both proposed limitations from the specification into the claims. First, InterDigital argued that the ITC improperly limited the plain meaning of the terms “signal” and “code” to “spreading codes” because such a construction would (a) render superfluous language in one claim that expressly included a “spreading codes” limitation and (b) read out a preferred embodiment in which the successively transmitted signals were not “used or intended to be used to increase the bandwidth of another signal” (because that embodiment described “short codes” that did not carry data). Appx18480-18481, Appx18489-18506 (*InterDigital I* Appellants’ Br. 22-23, 31-48). This Court agreed, holding that the “plain meaning” controls because the

patentee neither “provide[d] a special definition” nor “disavow[ed] the ordinary scope.” *InterDigital I*, 690 F.3d at 1324. The Court, therefore, construed “code” (and, implicitly, the equivalent term “signal”) to be “a sequence of bits (if the ones and zeros are transmitted at the ‘data rate’) or chips (if the ones and zeros are transmitted at the faster ‘chip rate’).” *Id.*²

Second, InterDigital argued that the ITC improperly read into the claims a requirement from the preferred embodiment (in which the successively transmitted signals were “short codes” that were “continuously” increasing in power). Appx18506-18515 (*InterDigital I* Appellants Br. 48-57). This Court again agreed with InterDigital and applied long-standing prohibitions against reading into claims limitations from preferred embodiments. The Court rejected the argument that “the terms ‘code’ and ‘signals’ each correspond to the ‘short codes’ disclosed in the specification,” Appx18874-18875 (*InterDigital I* Nokia Br. 47-48), and instead

² The ITC, the parties, and this Court used “signal” and “code” interchangeably. *See, e.g.*, Appx18241 (Initial Determination 38) (limiting “codes” and “signals” to “spreading codes”); Appx18867, Appx18869-18870, Appx18874-18877 (*Interdigital I* Replacement Br. of Intervenor Nokia Inc. & Nokia Corp. (“*InterDigital I* Nokia Br.”) 40, 42-43, 47-50 (Fed. Cir. July 13, 2010), 2010 WL 3048406) (treating “code” and “signal” as synonymous); Appx18912, Appx18924-18926 (*InterDigital I* Replacement Reply Br. for Appellants 1, 13-15 (Fed. Cir. Jan. 26, 2011), 2011 WL 598412); Appx18488-18493 (*InterDigital I* Appellants’ Br. 30-35) (same); Appx18489 n.6 (*id.* at 30 n.6) (“InterDigital’s appeal encompasses the constructions of both ‘code’ and ‘signal.’”); *InterDigital I*, 690 F.3d at 1321 (discussing specification and claims’ recitation of successively transmitted “signals” and “code signals”).

held that the proposed requirement “occurs in the context of a preferred embodiment and does not purport to describe the limits of the invention as a whole.” *InterDigital I*, 690 F.3d at 1328.

2. The 800 Investigation And Appeal (*InterDigital II*)

In 2015, in *InterDigital II*, this Court addressed claims of two related but distinct patents (the ’636 and ’830 patents) and affirmed the ITC’s finding of non-infringement in an unpublished opinion. 601 F. App’x at 973. In that case, each of the asserted claims (’830 patent claims 1, 2, 3, 5 and ’636 patent claims 1, 2, 4, 6-8) imposed certain length constraints relating to the “successively sent transmissions.” See Appx332 (’830 patent cl. 1) (“each of the successively sent transmissions is shorter than the message”); Appx357 (’636 patent cl. 1) (“first length is less than the second length”). For purposes of that appeal, InterDigital did not challenge the ITC’s determination that the asserted claims were limited to short codes and only disputed the ITC’s imposition of a “no data” limitation.

This Court determined that the successively sent transmissions in the asserted ’830 and ’636 patent claims were limited, based on the preferred embodiment, to short codes that do not carry data. 601 F. App’x at 977-79. The Court rejected InterDigital’s reliance on claim language in the ’847 patent because, although it was a “related patent[],” it was “not ... at issue.” *Id.* at 978-79. The Court relied heavily on expert testimony not found in the present case. *Id.* at 977.

The Court also relied on *InterDigital I*'s discussion of the short codes in the preferred embodiment, *id.* at 977-78, even though *InterDigital I* expressly found that the same embodiment did *not* limit the claims of the '847 and '966 patents, *InterDigital I*, 690 F.3d at 1324.

3. The 868 Investigation

In a third ITC proceeding, the 868 Investigation, the agency found certain claims of the '847 and '966 patents not infringed. On appeal, the parties jointly moved to stay the appeal pending the Court's decision in *InterDigital II*, in view of the ITC's reliance on the underlying ITC determination in that case. Appx10526-10528 (Unopposed Joint Motion to Stay 1-3, No. 15-1051, ECF No. 43). After this Court's decision in *InterDigital II*, InterDigital voluntarily dismissed that appeal in June 2015 because it became apparent that, even if it prevailed, there would be insufficient time to complete remand proceedings and obtain effective relief before the patents expired in June 2016. Appx10536-10537 (Unopposed Motion to Voluntarily Dismiss 1-2, No. 15-1051, ECF No. 45).

D. District Court Proceedings

In the present action, on January 2, 2013, InterDigital sued ZTE for infringing the '847 and '966 patents. Appx360-431; *see also* Appx460-472.

1. The Accused Devices

ZTE's accused devices contain a baseband chip, developed by Qualcomm, that can transmit and receive signals on a wideband code division multiple access ("WCDMA") network. Appx6973 (118:3-17), Appx7596-7598 (748:19-743:6), Appx7601 (746:21-23), Appx7736 (881:21-24). WCDMA is a more complex version of the original CDMA "spread spectrum" approach to sending multiple signals over the same part of the frequency spectrum at the same time. The WCDMA standard provides for a startup procedure known as the Physical Random Access Channel ("PRACH" or "RACH") procedure. Appx8953-8984. This process involves two steps. First, the device sends a series of short messages (called "PRACH preambles") at increasing power levels until the base station acknowledges transmission. Appx8966, Appx8972-8973. Second, after receiving the acknowledgement, the user transmits a longer message (called the "PRACH message") that is used to give the user access to the communications channel. Appx8966, Appx8972-73. The PRACH preambles and PRACH message are both generated from a sequence of chips (called " $c_{\text{long},1,n}$ " in the WCDMA standard and in the accused products) that is output by a scrambling code generator. Appx7255 (400:14-24), Appx7315 (460:1-20), Appx8969. The PRACH preamble is the first 4,096 chips of $c_{\text{long},1,n}$ and the PRACH message is the next 38,400 chips of $c_{\text{long},1,n}$. Appx7255-7257 (400:14-402:20).

2. Claim Construction

On November 13, 2013, the parties filed a joint claim construction brief addressing various disputed terms, including the “successively transmits signals” and “successively transmitted signals” terms at issue in this appeal. Appx9748-9751. InterDigital asked that they be given their plain meaning—“transmits signals one after the other” and “signals transmitted one after the other,” respectively. Appx9748. ZTE argued that the terms should be limited to prohibit the successively transmitted signals from carrying “data”—*i.e.*, that they should be interpreted to mean “successively [transmits/transmitted] sequences of chips *not modulated by a data signal.*” Appx9749-9750 (emphasis added). ZTE did not contend that the claim language itself required this “no data” limitation and instead imported it from a single preferred embodiment. *Id.* ZTE also argued that the term “code” (another disputed term) should be similarly limited to exclude “data,” Appx9721-9726, even though this Court previously construed the term “code” (and “signal”) to have its plain meaning of “a sequence of bits ... or chips” in *InterDigital I*, 690 F.3d at 1324; *see supra* at 10-13.

After a claim construction hearing on March 12, 2014 (Appx6347-6413), the district court agreed with InterDigital that there was no basis to import a “no data” limitation from a description of a “preferred embodiment” in the specification into the claims. Appx29; Appx6362 (61:19-25, 62:3-5). The court construed

“successively transmit[s/ed] signals” to be “successively transmit[s/ed] sequences of chips or bits” and construed “code” to be a “sequence of chips or bits.” Appx29.

3. Trial Proceedings And The Jury’s Infringement Verdict

The principal factual issue at trial (and the only one ZTE raises on appeal) is whether the signals successively sent by the accused devices to determine the appropriate power level (the PRACH preambles), and the confirmation “message” sent by the accused devices after the user receives an indication from the base station (the PRACH message), are generated using a “same code.”

To “generate” both the PRACH preambles and the PRACH message, the accused products use a scrambling code generator which generates a code sequence; both are described in the wireless standard specification as $c_{\text{long},l,n}$. Appx8969-8970. InterDigital’s infringement expert, Dr. Charles Jackson, testified that PRACH preambles are always generated using the first 4,096 chips of the sequence of code generated by the scrambling code generator and the PRACH message is the next 38,400 chips of the sequence of code generated by that same generator, for a consecutive sequence of code totaling 42,496 chips. Appx7255-7257 (400:14-402:20), Appx7265-7269 (410:19-414:7), Appx7311-7312 (456:12-457:23). Dr. Jackson explained that “the scrambling code generator generates 4,096 chips, basically the hardware hits a pause button and it starts up again for

another 38,400.” Appx7327 (472:10-18). ZTE’s expert, Dr. Kakaes, likewise identified $c_{\text{long},1,n}$ as the code used to generate the PRACH preambles and messages. Appx8265-8268 (1410:12-1413:20).

InterDigital also introduced Qualcomm documentation corroborating Dr. Jackson’s testimony. Appx7232-7235 (477:2-480:24) (discussing Appx17101 (PX-625)). The documentation explains that “the scrambling code for the RACH message corresponds to the *same scrambling code* that is used in the construction of the RACH preamble” and that the scrambling code is simply continued from the end of the RACH preamble. Appx8617-8618 (1762:1-1763:5) (emphasis added) (quoting and discussing Appx17694 (PX-625)); *see also* Appx7268-7269 (413:1-414:7) (same); Appx6874-6875 (19:15-20:5), Appx7162 (307:11-19), Appx7197 (342:4-7). Dr. Jackson further explained that comments found in the source code of the accused devices reflected Qualcomm’s understanding that $c_{\text{long},1,n}$ constitutes a single code: “The long scrambling code generator comprises two 25-bit chip registers which produce two code sequences, $C_{\text{long},1,n}$ and $C_{\text{long},2,n}$.” Appx7270 (415:4-6). According to Dr. Jackson, the WCDMA standard specifies that the 4,096-chip and 38,400-chip portions of $c_{\text{long},1,n}$ are part of the same code. Appx7270 (415:4-6).

A different InterDigital expert, Dr. Haas, testified that the claims are valid over prior art because the prior art standard did not include the “same code”

requirement. Appx8291-8334 (1436:11-1479:12). The jury found all asserted claims of the two power ramp-up patents infringed and not invalid. Appx16252.

4. The Court's Denial Of JMOL

After trial, ZTE sought judgment as a matter of law, arguing that InterDigital's proof of infringement was deficient because it failed to show that the accused products "generate both the successively transmitted signals and the message using the same code." Appx61. The district court denied the motion and found that Dr. Jackson's testimony provided substantial evidence of infringement and, contrary to ZTE's contention, his testimony did not contradict Dr. Haas's testimony on validity. Appx61-64. The district court explained that "[t]he jury is presumed to have considered all of the evidence, assessed the credibility of the competing experts, and given the evidence whatever weight the jury felt appropriate." Appx63. Because "[t]he jury had substantial evidence that it found credible," the court declined to "disrupt its findings." Appx63.

SUMMARY OF THE ARGUMENT

ZTE's appeal raises one claim construction argument and one factual dispute. Both are unavailing.

1. The district court correctly construed the term "successively transmit[s/ed] signals" based on its plain meaning to be "successively transmit[s/ed] sequences of chips or bits" and rejected ZTE's request to engraft an

additional requirement that such signals must not carry (*i.e.*, be “modulated by”) data. Following this Court’s lead in *InterDigital I*, the district court correctly rejected attempts to limit the broad scope of the “signal” and “code” terms in these same patents. ZTE’s proffered “no-data” limitation has no basis in the claim language. Even worse, it reads into the asserted claims a limitation expressly included only in certain *unasserted* claims, thereby rendering its expression superfluous. The prosecution history, moreover, confirms that the patentee deliberately included the no-data proviso only in *some* claims, not in *all* of the claims as ZTE would have it.

ZTE ignores the claim language (as it did before the district court) and does not dispute that the district court’s construction is consistent with the plain meaning of the term “successively transmit[s/ed] signals.” Instead, ZTE wanders far afield, arguing that the straightforward term is not only referring just to “short codes” but to “short codes” that are “not modulated by a data signal.” For this, ZTE relies on what the specification expressly identifies as the “preferred embodiment”—the only place where the specification describes short codes that do not carry data. But this Court in *InterDigital I* held that precisely the same preferred embodiment in these same patents “does *not* purport to describe the limits of the invention as a whole.” 690 F.3d at 1328 (emphasis added).

Beyond that, ZTE is left to cobble together snippets from this Court's prior decisions in *InterDigital I* and *InterDigital II* and various pieces of extrinsic evidence from those and other cases. Those decisions do not justify ZTE's attenuated "construction" of that term. To the contrary, *InterDigital I*, which addressed the same patents at issue here, confirms the correctness of the district court's construction because, again, it (i) rejected attempts to narrow the terms "signal" and "code" and (ii) held that the preferred embodiment—the lynchpin of ZTE's position—was never intended to limit the invention as a whole. And *InterDigital II*, an unpublished appeal from an ITC action that addressed related but distinct patents, was decided on a different intrinsic and extrinsic record. In fact, this Court in that case expressly distinguished the patents in *this* case (and *InterDigital I*) from the patents at issue in *InterDigital II*. To the extent that there is tension between *InterDigital I* and *InterDigital II*, the former controls and should guide the Court in this case on these patents. The fact that ZTE strains to introduce extrinsic evidence (expert testimony) and purported admissions that are absent from the record here highlights the weakness in ZTE's position on this appeal.

This Court should return to the claim language, like this Court did in *InterDigital I*, and reject ZTE's attempts to narrow the claims' ordinary meaning and to incorporate features of the preferred embodiment. The district court's construction should be affirmed.

2. Substantial evidence supports the jury’s infringement verdict and the district court correctly refused to disturb it. ZTE contends that no reasonable jury could find that the accused products generate the successively transmitted signals and the subsequent message using the “same code.” That argument is without merit. As InterDigital’s expert explained at length, the accused products generate both the PRACH preambles (*i.e.*, the successively transmitted signals) and the PRACH message (*i.e.*, the subsequent message) from the same $c_{\text{long},1,n}$ code. ZTE contends that this expert testimony was conclusory, in conflict with InterDigital’s other expert testimony, and outweighed by ZTE’s expert testimony. But those are the same arguments ZTE made below and the jury rejected it. ZTE cannot now reweigh the evidence on appeal or supplant the jury’s findings, particularly in light of the repeated impeachments against ZTE’s expert and the jury’s province to find credibility. The jury’s verdict is supported by substantial evidence.

The district court’s judgment should be affirmed.

ARGUMENT

I. STANDARD OF REVIEW

The district court’s claim construction, which focused exclusively on intrinsic evidence, is reviewed *de novo*. *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841 (2015); *Poly-America, L.P. v. API Indus., Inc.*, 839 F.3d 1131, 1135-36 (Fed. Cir. 2016).

The district court’s denial of ZTE’s renewed motion for judgment as a matter of law is reviewed *de novo* to determine whether substantial evidence supports the jury’s verdict under Third Circuit law. *Leader Techs., Inc. v. Facebook, Inc.*, 678 F.3d 1300, 1305 (Fed. Cir. 2012). Judgment as a matter of law “should be granted sparingly,” only when no reasonable jury could reach the verdict—*i.e.*, when “‘the record is critically deficient of the minimum quantity of evidence’ in support of the verdict.” *Eshelman v. Agere Sys., Inc.*, 554 F.3d 426, 433 (3d Cir. 2009) (citation omitted). The Court must “view[] the evidence in the light most favorable” to InterDigital as the non-moving party and give it “every fair and reasonable inference.” *Lightning Lube, Inc. v. Witco Corp.*, 4 F.3d 1153, 1166 (3d Cir. 1993). And this Court cannot “reweigh the evidence or supplant the record” with its own credibility determinations. *Leader Techs., Inc.*, 678 F.3d at 1308 (Third Circuit law).

II. THE DISTRICT COURT PROPERLY CONSTRUED THE TERM “SUCCESSIVELY TRANSMITTED SIGNALS”

Claim terms are generally given their ordinary meaning as understood by persons skilled in the art at the time of the invention. *InterDigital I*, 690 F.3d at 1324. The ordinary meaning controls “unless the patentee acts as his own lexicographer and provides a special definition for a particular claim term or the patentee disavows the ordinary scope of a claim term either in the specification or during prosecution.” *Id.* Any such limitation of claim scope “must be clear and

unmistakable ... in the intrinsic record.” *Unwired Planet, LLC v. Apple Inc.*, 829 F.3d 1353, 1358 (Fed. Cir. 2016). This Court has “repeatedly held that it is ‘not enough that the only embodiments, or all of the embodiments, contain a particular limitation’ to limit claims beyond their plain meaning.” *Id.* at 1359 (citation omitted); *see also GE Lighting Sols., LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1309 (Fed. Cir. 2014).

The district court correctly gave the term “successively transmit[s/ted] signals” its plain meaning of “successively transmit[s/ted] sequences of chips or bits.” ZTE does not contest that this is the plain meaning. Instead, ZTE seeks to insert the words “not modulated by a data signal” to the end of the construction based on nothing in the intrinsic record except the preferred embodiment—the same embodiment that this Court found *not* limiting as to these same claims in *InterDigital I*. The district court correctly declined to narrow that plain meaning with ZTE’s proposed “no data” limitation.

A. The Intrinsic Record Does Not Support ZTE’s Proposal To Limit “Successively Transmit[s/ted] Signals” To Carrying “No Data”

1. The Claim Language Precludes ZTE’s Proposed Limitation

There is no basis in the claim language to add ZTE’s proposed limitation of “not modulated by a data signal.” The plain meaning of “successively transmit[s/ted] signals” says nothing about whether the signals carry data. As InterDigital explained, “successive” means “in succession,” Appx16198 (quoting

Webster's Third New Int'l Dictionary 2282 (2002)), and ZTE does not contend otherwise. A “signal” conveys information as a series of bits or chips. As this Court held in *InterDigital I*, the plain meaning of “signal” (which this Court treated as synonymous with “code”) is “a sequence of bits ... or chips.” 690 F.3d at 1324 (emphasis added). Here too, ZTE does not contend otherwise. Moreover, none of the surrounding claim language precludes a signal from carrying “data” or proscribes how the signal may be modulated. Therefore, as the district court correctly held, the plain meaning of the term “successively transmit[s/ted] signals” is “successively transmit[s/ted] sequences of chips or bits.”

Importantly, other claims terms affirmatively preclude ZTE’s attempt to read a “no data” limitation into the “successively transmit[s/ted] signals.” In particular, several unasserted claims of the ’847 patent expressly recite that the successively transmitted signals carry no data. For example, claims 1 and 2 provide that “the transmitter successively transmits signals” and that “the transmitted signals *carry no data* of the subscriber unit.” Appx171 (cl. 1, 2) (emphasis added). Claims 4, 7, 8, and 10 have similar restrictions. *Id.* (cl. 4) (“a signal carrying no data of the subscriber unit”); Appx172 (cl. 7) (“not providing data of said subscriber unit”); *id.* (cl. 8) (“does not include data of the subscriber unit”); *id.* (cl. 10) (“not providing data of said subscriber unit”).

All of these limitations would be superfluous if “successively transmits signals” already precluded carrying data—as ZTE admitted in the district court. *See* Appx6357 (43:6-11); Appx6351 (20:15-17). As the Court is well aware, such “interpretations that render some portion of the claim language superfluous are disfavored.” *Power Mosfet Techs., L.L.C. v. Siemens AG*, 378 F.3d 1396, 1410 (Fed. Cir. 2004). Instead, this Court must “construe claims with an eye toward giving effect to all of their terms” lest it “undermine[]” the essential notice function of patent claims. *Haemonetics Corp. v. Baxter Healthcare Corp.*, 607 F.3d 776, 781 (Fed. Cir. 2010).

For example, in *Merck & Co. v. Teva Pharmaceuticals USA, Inc.*, this Court gave the term “about” its ordinary meaning rather than limiting it to “exactly” to avoid rendering another claim limitation “excess verbiage.” 395 F.3d 1364, 1370-72 (Fed. Cir. 2005). Similarly, in *U.S. Ethernet Innovations, LLC v. Acer, Inc.*, in construing claims of a data transmission patent, this Court held that “[t]he failure to say ‘all the data of the frame’ in the claim element ‘storing data of frame ... for transmission’ ... indicates that that element does *not* require a full frame of data” and that “where the patent intended to indicate *all* the data of the frame in the claim, it said so.” 646 F. App’x 929, 935 (Fed. Cir. 2016) (second alteration in original); *see also, e.g., Aristocrat Techs. Austl. PTY Ltd. v. Int’l Game Tech.*, 709 F.3d 1348, 1357 (Fed. Cir. 2013) (construing “awarding” step of claim to avoid

making “identifying prize” step superfluous); *Elekta Instrument S.A. v. O.U.R. Sci. Int’l, Inc.*, 214 F.3d 1302, 1307 (Fed. Cir. 2000) (construing to avoid rendering the 30-degree claim limitation superfluous); *Gen. Am. Transp. Corp. v. Cryo-Trans, Inc.*, 93 F.3d 766, 770 (Fed. Cir. 1996) (construing to avoid rendering superfluous the claim requirement for openings adjacent to the end walls).³

Similarly, here, where the patentee “intended to indicate” the successively transmitted signals carried no data, “it said so” (*e.g.*, in claim 1 of the ’847 patent), In contrast, it deliberately “fail[ed]” to include that limitation in the claims at issue on appeal. *See U.S. Ethernet Innovations, LLC*, 646 F. App’x at 935; *see also Tate Access Floors v. Interface Architectural Res., Inc.*, 279 F.3d 1357, 1370-71 (Fed. Cir. 2002) (“where the patentee meant to constrict the claim to one and only one particular layer, he said so”). The district court correctly refused to read the express “no data” language out of certain claims by reading “successively transmit[s/ted] signals” as implicitly already including that same limitation.

³ *See also Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (“[T]he claim in this case refers to ‘steel baffles,’ which strongly implies that the term ‘baffles’ does not inherently mean objects made of steel.”); *Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1380-81 (Fed. Cir. 2006) (courts must not construe claims to “render additional, or different, language in another independent claim superfluous”).

2. The Prosecution History Refutes ZTE's Proposed "No Data" Limitation On "Successively Transmit[s/ed] Signals"

The prosecution history, which ZTE fails to address, provides no clear and unmistakable limitation on the "successively transmit[s/ed] signals." To the contrary, it confirms that the patentee only intended some—not *all*—of the claims to include a "no data" limitation. *See* Appx16015-16020; Appx16145-16148 (reasons for allowing '847 patent claims 1-5, which were original denoted claims 4-8); Appx15002-15004, Appx15465-15486, Appx15510-15513.

In particular, claims 1, 2, and 4 (original claims 4, 5, and 7) of the '847 patent were allowed precisely because "the prior art fails to disclose" a combination of limitations including the "no data" limitation. Appx16016-16018; Appx16147-16148. In sharp contrast, the reasons for allowing claims 3 and 5 (original claims 6 and 8) nowhere rely on, mention, or imply a "no data" limitation. Appx15944-15955; Appx16018-16019; Appx16146-16147. In other words, claims 3 and 5 were allowed *despite* lacking a "no data" limitation. That leaves no doubt that '847 patent claims 3 and 5 cannot be read to include a "no data" limitation.

Similarly, the '966 patent claims were allowed with no suggestion of implying a "no data" limitation. Appx15510-15513. In fact, the original application for the '966 patent included claims that expressly recited that the successive transmissions "do[] not carry data," but all of those claims were *cancelled*, and the replacement claims, which ultimately issued, did not mention

“data.” Appx15002-15004, Appx15465-15486. This confirms that the patentee never intended to limit the ’966 patent claims with a “no data” limitation. *See United States v. Telectronics, Inc.*, 857 F.2d 778, 783 (Fed. Cir. 1988) (“[C]ourts are not permitted to read ‘back into the claims limitations which were originally there and were removed during prosecution’” (citation omitted)); *MPHJ Tech. Invs., LLC v. Ricoh Americas Corp.*, No. 2016-1243, --- F.3d ----, 2017 WL 563149, at *7 (Fed. Cir. Feb. 13, 2017) (declining to read in limiting language that was removed in prosecution).

3. The Specification Does Not Preclude “Successively Transmit[s/ed] Signals” From Carrying “Data”

ZTE does not (and cannot) dispute that the plain meaning of the term “successively transmits signals” says nothing about whether the signals carry data. ZTE also does not deny that its construction renders superfluous the express “no data” limitations in numerous other (unasserted) claims. Nor does ZTE address the prosecution history, which shows the same thing. Instead, ZTE argues that the specification disclaims the plain meaning of “successively transmits signals,” preventing them from carrying data. ZTE is dead wrong.

The specification does not support ZTE’s proposed limitation. Instead, it expressly contemplates that signals can carry data—referring, for example, to a “data signal,” Appx148 (9:44), a “baseband data signal” Appx144 (2:3, 2:9), and “communication signals,” Appx144 (2:21). The specification, therefore, uses

“signal” broadly enough to either include data or not include data. That, again, is consistent with *InterDigital I*, which correctly rejected attempts to limit the plain meaning of “code” and “signal” based on the specification. 690 F.3d at 1326-27; *supra* at 10-13. Nor does the specification even mention—let alone define or disclaim the ordinary meaning of—the term “successively transmit[s/ed] signals.”

ZTE relies on a single preferred embodiment in which the successively transmitted signals are “short codes” that “carry no data.”⁴ ZTE asks the Court to make two unjustified and erroneous leaps. ZTE contends that the successively transmitted signals in all of the claims are limited to “short codes,” and further that they are the specific “short codes” described in the preferred embodiment that “carry no data.” Those arguments fail.

First, ZTE ignores that a separate embodiment—which the specification calls “a first embodiment of the present invention” (Appx146 (6:1))—does not prescribe the use of (or even mention) “short codes” and says nothing about whether the subscriber unit’s successively transmitting signals carry (or do not carry) “data.” Appx146-147 (6:1-7:5). In that embodiment, during power ramp-up, the subscriber unit repeatedly transmits an “access code” at increasing power

⁴ ZTE waives its infirm argument (forcefully asserted below) that InterDigital’s construction would render the claims inoperable. Blue Br. 46 (“ZTE makes no such argument in this appeal”).

levels until the base station acknowledges receipt, at which point call set-up can proceed, as explained in the specification and depicted in Figures 4 and 5. Appx146-147 (6:1-7:5); *see* Appx146 (6:7-10) (“The establishment of a communication channel in accordance with the present invention ... are shown in FIG. 4.”); Appx136-137 (Figs. 4, 5); *supra* at 5-6.

The specification later describes another embodiment—the “preferred embodiment of the present invention” (Appx147 (7:41))—with a ramp-up procedure that successively sends “short codes” (codes that are “much smaller” than the access code) that “carr[y] no data.” Appx147 (7:41-49, 8:5-7). In *InterDigital I*, this Court recognized that the “first” and “preferred” embodiments are two separate embodiments “of the invention” and discussed each at length. 690 F.3d at 1322-23. ZTE’s proposal to limit “successively transmit[s/ted] signals” to “short codes” across all claims would read out the “first embodiment of the present invention,” an approach that is “rarely, if ever, correct.” *See Broadcom Corp. v. Emulex Corp.*, 732 F.3d 1325, 1333 (Fed. Cir. 2013).

Second, even were the “first embodiment” (improperly) ignored, leaving only the “preferred embodiment,” this Court has “repeatedly held that it is ‘not enough that the only embodiments, or all of the embodiments, contain a particular limitation’ to limit claims beyond their plain meaning.” *Unwired Planet*, 829 F.3d at 1358, 1359. Yet that is precisely what ZTE asks the Court to do. The *only* place

the specification describes the successively transmitted signals—short codes or otherwise—as carrying no data is in the preferred embodiment. That does not limit the claims. *See id.*; *see also Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 907 (Fed. Cir. 2004) (plain meaning controls if there is not a “specific reason[] dictating a narrow claim construction beyond the mere fact that the specification disclosed only a single embodiment or a particular structure”).

Indeed, elsewhere, the specification numerous times discusses or defines “short codes” without mentioning whether they carry data. *See, e.g.*, Appx145 (3:23-25) (“The short code is a sequence for detection by the base station which has a much shorter period than a conventional spreading code.”). And the specification expressly rejects limiting the claims to the preferred embodiment: “[a]lthough the invention has been described in part by making detailed reference to the preferred embodiment, such detail is intended to be instructive rather than restrictive.” Appx148 (10:54-57).

This Court held, in its precedential *InterDigital I* decision, that this same “preferred embodiment” does not limit the successively transmitted signals in the same patent claims at issue here (the ’847 and ’966 patents). 690 F.3d at 1327-28. This Court explained that the proposed limitation in that case (*i.e.*, that the successively transmitted signals must be sent at “continuously increasing” power levels) was drawn from the “preferred embodiment,” which “does not purport to

describe the limits of the invention as a whole.” *Id.* at 1328. The same conclusion must follow here.

B. ZTE’s Reliance On *InterDigital I* And *InterDigital II* And On Certain Extrinsic Statements Is Unavailing

ZTE makes little effort to analyze the intrinsic record. ZTE does not, and cannot, explain why the intrinsic record supports—let alone “clearly and unmistakably” *compels*—a narrow atextual reading of “successively transmit[s/ed] signals.” ZTE instead relies principally on (1) *InterDigital I*, (2) *InterDigital II*, and (3) *extrinsic* evidence (statements by an expert and by InterDigital) in those and other cases. That reliance is misplaced.

At the outset, ZTE does not contend that any of those decisions or extrinsic statements are *binding* or *preclusive* in the present case. With good reason. They arose from ITC actions and it is well-established that decisions—including decisions of this Court—arising in that context are non-binding in subsequent district court actions, even ones involving the same patents and parties. *See, e.g., Texas Instruments Inc. v. Cypress Semiconductor Corp.*, 90 F.3d 1558, 1568 n.9 (Fed. Cir. 1996) (“[A]n ITC’s prior decision concerning patent infringement or validity cannot have claim preclusive effect in district courts.”). Regardless, none of them support ZTE’s position on the merits and *InterDigital I* affirmatively repudiates it.

1. *InterDigital I* Supports InterDigital, Not ZTE

ZTE characterizes *InterDigital I* as holding that the claimed “successively transmitted signals” never carry data. *See* Blue Br. 19-20, 44, 52-53. *InterDigital I* did no such thing. Instead, *InterDigital I* refutes ZTE’s positions in this appeal.

In *InterDigital I*, the accused infringer argued that all of the “codes” and “signals” in the patent were “spreading codes” that must be “used or intended to be used to increase the bandwidth of another signal.” 690 F.3d at 1326. This Court rejected that argument because the specification disclosed various contrary examples—including, for example, the short codes in the preferred embodiment that do not carry data and thus are not “used or intended to be used to increase the bandwidth of another signal.” *Id.* Court never suggested—and InterDigital never argued—that the claims were limited to the short codes in the preferred embodiment or that short codes can *never* carry data.⁵

To the contrary, as discussed, this Court gave the terms “code” and “signal” their plain meaning of “a sequence of bits ... or chips.” *Id.* at 1324. As also

⁵ Similarly, contrary to ZTE’s suggestion (Blue Br. 18-19, 52), InterDigital did not argue that the successively transmitted signals in the “first embodiment” are short codes that do not carry data. In the first embodiment, InterDigital pointed to the “*pilot code*” (which is sent by the base station), *not* the successively transmitted signals (which are sent by the subscriber unit), as an example of a code that does not carry data. *See* Appx18497-18498 (*InterDigital I* Appellants’ Br. 39-40); *see also* Appx146 (5:9-13) (“The pilot code 40 is a spreading code which carries no data bits. The pilot code 40 is used for [SU] acquisition and synchronization”).

discussed, this Court expressly held that the same preferred embodiment that ZTE relies on here does not limit the “successively transmitted signals” in the ’847 and ’966 patent claims. *See id.* at 1328. Therefore, *InterDigital I* strongly supports (and perhaps requires) the district court’s decision to give the “successively transmit[s/ted] signals” term its plain meaning of “successively [transmit[s/ted]] sequences of chips or bits” rather than limit the term to the non-data-carrying short codes in the preferred embodiment. Appx29; *supra* at 10-13.

2. *InterDigital II* Was Based On A Different Record

ZTE relies heavily on this Court’s decision in *InterDigital II*, in which this Court construed the claims of the ’830 and ’636 patents as limited to the short codes in the preferred embodiment. That non-precedential decision not help ZTE because it addressed different patents on a different record.

First, in *InterDigital II*, the Court specifically distinguished the patents at issue in that case from the ones at issue here, stating that “although [the ’847 and ’966 patents] related to the [’830 and ’636] patents, [they] are not the patents at issue in [that] case.” 601 F. App’x at 979. This Court found it significant that the patents in that case did not have claims that expressly added the “carry no data” limitation found in certain claims of the ’847 patent in this case. *Id.* at 978-79. Accordingly, the Court was not persuaded that the language of the claims at issue in that case precluded reading into the claims a no-data limitation from the

preferred embodiment. In contrast, here, certain claims of these patents already include such a no-data limitation, which would be rendered superfluous under ZTE's construction, contrary to well-established canons of construction. *Supra* at 25-27.⁶

Second, in *InterDigital II*, the Court relied heavily on Dr. Jackson's testimony in that case, which the Court interpreted as arguably stating that the claims of the '830 and '636 patents were limited to the short codes in the preferred embodiment. 601 F. App'x at 977. Dr. Jackson made no such statements in this case. To the contrary, he acknowledged what is otherwise self-evident—that, at least in the context of the patents at issue here, a “preferred embodiment” is just “*one way to build the invention.*” Appx7173 (318:4-14) (emphasis added). He also recognized that, although “the patents are really very similar,” the “difference comes in the claims.” Appx7172 (317:1-2). What should have been clear in the prior record is that when Dr. Jackson opined in *InterDigital II* about short codes not carrying “data,” he was using the term “data” in a specific way, not referring to any and all information, but a very specific category of information. *See* A30176-

⁶ In *InterDigital II*, the Court found that “claim differentiation” principles were not dispositive because the additional limitation did not appear in a dependent claim. 601 F. App'x at 978-79. But the Court did not address the more general canon of construction that disfavors adopting a construction that renders claim language superfluous. That principle is compelling, if not decisive, here.

30182 (*InterDigital II* Joint Appendix, ECF No. 81). Indeed, he emphasized that his opinion about short codes depended entirely on his particular understanding of “data.” *Id.* His testimony cannot be divorced from its context and is not relevant here. The construction of “data” was not resolved by the district court, *see infra* at 43-45, and it need not be resolved in this appeal to conclude that the claims are not limited to the preferred embodiment in the first place.

Third, in *InterDigital II*, the Court relied on the fact that InterDigital declined to challenge the ITC’s construction insofar as it limited to “short codes.” 601 F. App’x at 978. In that case, however, *all* of the claims at issue included some form of length-restricting limitation relating to the successively sent transmissions. In each of the asserted ’636 patent claims, the initial successive transmissions are “derived from a first length” of chips that “is less than” a second length of chips used for the subsequent message. Appx357 (cl. 1). And, in the asserted ’830 patent claims, “each of the successively sent transmissions is shorter than the message.” Appx332 (cl. 1). For that reason, it is not surprising that InterDigital elected not to contest that the “successively sent transmissions” were short codes. In contrast, certain asserted claims (of the ’847 patent) make no reference to the length of the successively transmitted signals, *see* Appx171 (cl. 3,

5),⁷ and ZTE does not argue that InterDigital or its expert “admitted” that the claims in *this* case are limited to short codes, *see* Blue Br. 51-52.⁸

Finally, in *InterDigital II*, in constructing the scope of the “short codes” in the preferred embodiment, the Court declined to rely on an embodiment with short codes that convey information regarding the channel selected, which is found in another patent that was expressly incorporated by reference—U.S. Patent No.

⁷ ZTE has not attempted to distinguish between the ’847 and ’966 patent claims or rely on the fact that the ’966 patent claims further provide that “each of the successively transmitted signals is shorter than the message.” Appx149 (cl. 1). If anything, that limitation highlights that, when the patentee wanted to limit the length of the successively transmitted signals, it knew how to do so.

⁸ ZTE cannot press such an argument for the first time in its reply. *Kennametal, Inc. v. Ingersoll Cutting Tool Co.*, 780 F.3d 1376, 1385 (Fed. Cir. 2015) (“[A]rguments not raised until [the] reply brief are waived.” (alteration in original) (citations omitted)). In any event, such an argument would fail. To be sure, in the district court, InterDigital highlighted the fact that, as disclosed in the specification, using short codes allows the invention to provide key benefits such as minimizing power overshoot and speeding up detection. *See, e.g.*, Appx6351-6352 (20:25-21:16). But “[t]he fact that a patent asserts that an invention achieves several objectives does not require that each of the claims be construed as limited to structures that are capable of achieving all of the objectives.” *Liebel-Flarsheim*, 358 F.3d at 908. For example, although the “first embodiment” does not mention short codes, it still “avoids sudden introduction of a strong interference, hence improving system capacity.” Appx146 (6:1-6). Indeed, neither party below proposed a construction that limits the “successively transmitted signals” to “short codes.” And the district court ultimately did not adopt either party’s construction, instead fashioning its own—“successively transmit[s/ed] sequences of chips or bits”—which, again, does not purport to limit the claims to short codes. InterDigital embraces that construction as consistent with the plain meaning of “successively transmit[s/ed] signals.”

5,799,010 (“the ’010 patent”) (Appx4241-4322)⁹—because the Court viewed the argument as not sufficiently developed. 601 F. App’x at 978. However, in that case, the ’010 patent had not been addressed before the ITC, whereas it was repeatedly addressed here during the district court’s *Markman* hearing. Appx6349 (9:11-11:4), Appx6351 (18:2-4), Appx6353 (25:6-9), Appx6361 (59:25-60:3). In this case, therefore, the ’010 patent provides still further support for the district court’s refusal to add ZTE’s “not modulated by a data signal” limitation. *See infra* at 44.

In sum, *InterDigital II* was decided on a different record involving different patents and does not support ZTE’s position here. That is especially true in light of this Court’s earlier decision in *InterDigital I*, which directly spoke to the patents at issue here and which affirmatively refutes ZTE’s arguments.

3. ZTE’s Reliance On Extrinsic Evidence Is Unavailing

Finally, ZTE strings together a series of purported “admissions” by InterDigital and its expert. Such extrinsic evidence—patched together from *other* cases and absent from *this* evidentiary record—cannot change the meaning of the

⁹ “[T]he entire disclosure[]” is “effectively part of the host document as if it were explicitly contained therein.” *Harari v. Lee*, 656 F.3d 1331, 1335-36 (Fed. Cir. 2011); *Telemac Cellular Corp. v. Topp Telecom, Inc.*, 247 F.3d 1316, 1329 (Fed. Cir. 2001); *see InterDigital II*, 601 F. App’x at 978 (“specification expressly incorporates by reference [the ’010 patent]”); Appx144 (2:33-37) (“incorporate[ing] by reference” the ’010 patent); Appx148 (9:30-35) (referencing the ’010 patent).

claims or the intrinsic record in this case. *See Summit 6, LLC v. Samsung Elecs. Co.*, 802 F.3d 1283, 1290 (Fed. Cir. 2015) (extrinsic evidence, such as expert testimony, “is generally of less significance than the intrinsic record” and “may not be used ‘to contradict claim meaning that is unambiguous in light of the intrinsic evidence’” (citation omitted)).

First, ZTE argues that InterDigital’s expert (in the 800 Investigation) and InterDigital (in the 868 Investigation) admitted that the “successively transmitted signals” in the ’847 and ’966 patent claims at issue here (and in the 868 Investigation) are the same as the “successively sent transmissions” in the ’830 and ’636 patent claims at issue in *InterDigital II*. Blue Br. 50-51. That argument fails. Those extrinsic statements were prior to *InterDigital II*, where the Court *rejected* InterDigital’s argument that the terms were equivalent in both sets of patents (Appx18991-18992 (*InterDigital II*, Brief of Appellants 34-35, ECF No. 49-1)), and specifically distinguished the ’830 and ’636 patents at issue in *InterDigital II* from the ’847 and ’966 patents at issue here (and in *InterDigital I* and the 868 Investigation). *See InterDigital II*, 601 F. App’x at 979 (“[T]hose patents, although related to the present patents, are not the patents at issue in this case.”).

Moreover, in seeking to stay the appeal of the 868 Investigation, InterDigital pointed out that the ITC found the claims not infringed because *the ITC* believed the claim terms were equivalent to those in the 800 Investigation. Appx10526-

10528 (Unopposed Joint Motion to Stay 1-3, No. 15-1051, ECF No. 43). InterDigital did not endorse that equivalence. A stay was efficient because, if this Court had reversed the ITC in the 800 Investigation in *InterDigital II*, it would have required vacating the ITC’s decision in the 868 Investigation *even if* the terms were not actually equivalent. Nor did InterDigital concede that the terms were equivalent by voluntarily dismissing the appeal of the 868 Investigation after the *InterDigital II* decision issued. *See* Appx10536-10537 (Unopposed Motion to Voluntarily Dismiss 1-2, No. 15-1051, ECF No. 45). InterDigital moved to drop the appeal in June 2015 because, “even if [it] were to prevail, [it] d[id] not believe there would be sufficient time” to obtain an exclusion order on remand before the ITC “before the patents at issue expire in June 2016.” *Id.* at 2 (Appx10537). This Court granted the motion. Appx10541-10542 (Order, No. 15-1501, ECF No. 46).

Regardless, even if the claim terms were identical in both sets of patents, it would not necessarily follow that they have the same scope. This Court has repeatedly held that a claim term can have different meanings within different claims of a patent—or even within a single claim—depending on the record as a whole. *See Haemonetics Corp.*, 607 F.3d at 780-83 (construing “the centrifugal unit” differently in different claims); *N. Am. Container, Inc. v. Plastipak Packaging, Inc.*, 415 F.3d 1335, 1346 (Fed. Cir. 2005) (construing “generally

convex” differently within same claim).¹⁰ As discussed, the intrinsic and extrinsic record in *InterDigital II* is different from the record here and does not dictate the construction of the terms in this case. *See supra* at 13-14, 35-39.

Second, ZTE argues that, in *InterDigital II*, InterDigital admitted that the “successively sent transmissions” in the ’830 and ’636 patents were short codes and InterDigital’s expert admitted that they were short codes that carry no data. Blue Br. 51-53. ZTE made similar arguments before the district court, *see* Appx9750-9751, and the district court correctly declined to rely on those extrinsic statements. Again, the patents and record here are different. *Supra* at 13-14, 35-39.¹¹ There are no such admissions or testimony in this case and there is no basis on which to limit the claims to the preferred embodiment. *Supra* at 24-33. That, again, would be in direct conflict with *InterDigital I*, which held that the preferred embodiment is not limiting as to the “successively transmitted signals” claimed in the ’847 and ’966 patents. This Court should follow *InterDigital I* and reject ZTE’s efforts to limit the claims.

¹⁰ *See also, e.g., Power Integrations, Inc. v. Fairchild Semiconductor Int’l, Inc.*, 843 F.3d 1315, 1340 (Fed. Cir. 2016) (“Similar language in different claims may be construed differently based on the context in which it is used and other intrinsic evidence.”); *AK Steel Corp. v. Sollac & Ugine*, 344 F.3d 1234, 1243 (Fed. Cir. 2003) (This Court has “interpreted differently two similar claims supported by the same specification.”).

¹¹ And, as discussed, the expert testimony does not support ZTE’s position in any event. *Supra* at 36-37.

C. If The Court Finds The Preferred Embodiment Limiting, The Construction Of “Data” Is Unresolved

If the Court nonetheless finds that the claims of the ’847 and ’966 patent are limited to the preferred embodiment with its short codes that “carr[y] no data,” then this Court should remand for further proceedings, including construction of the term “data.”

This Court’s prior decisions in *InterDigital I* and *InterDigital II* do not squarely address the meaning of “data” in that embodiment. Nor did the district court construe the term “data.” The parties disputed and briefed the term “carry no data of the subscriber unit,” which appeared in then-asserted claim 1 of the ’847 patent. Appx9718-9720.

InterDigital argued that “[d]ata’ in the claims and specification refers to the cellphone’s baseband data signal,” Appx9718, as this Court suggested in *InterDigital I*. See 690 F.3d at 1320-21 (discussing “data-carrying signal that transmits the telephonic messages between the cellphone and the base station”).¹² In contrast, ZTE sought to broadly construe “data” to include *any* information that might be conveyed or modulated by the short codes—a construction that makes no sense given that the whole point of sending short codes is to convey information to

¹² See also, e.g., Appx166 (’847 patent at 2:3-5) (“Each subscriber unit’s baseband data signal is multiplied by a code sequence ..., which has a much higher rate than the data.”).

allow for power ramp-up and call setup to occur. *See* Appx9718-9720. ZTE's sweeping view of "data" would have the effect of precluding an embodiment in the incorporated '010 patent. The '010 patent describes an embodiment in which the subscriber unit successively transmits one of four possible short codes (referred to as SAXPT(0), SAXPT(1), SAXPT(2), and SAXPT(3))—each corresponding to a different channel. Appx4288-4289 ('010 patent at 22:42-23:37). Each short code is produced by combining (modulating) one of four known signatures (C_{56} , C_{52} , C_{48} , and C_{44} , respectively) with a known scrambling code (C^*). Appx4288-4289 ('010 patent at 22:42-23:37). Thus each short code is modulated in a manner that conveys which channel is selected. *See* Appx6349 (9:11-11:4), Appx6351 (18:2-4). The existence of this embodiment confirms that ZTE's view of "data" is unfounded.

Ultimately, this dispute over "data" was unresolved because, as InterDigital narrowed its case for trial, it elected not to proceed to trial on the claims that had a "no data" limitation (claims 1, 2, 4, 7, 8, and 10 of the '847 patent), Appx16249-16250, and the district court rejected ZTE's attempt to inject the same "no data" limitation into the remaining claims, *supra* at 16-17. This Court holds that the preferred embodiment precludes the successively transmitted signals from being modulated by "data," this matter should be remanded for the district court to construe "data" in the first instance in the normal course.

Regardless, for the reasons discussed, the claims of the '847 and '966 patents are *not* limited to the preferred embodiment. This Court should affirm the district court's construction, which adheres to the plain meaning of "successively transmit[s/ted] signals," and reject ZTE's attempt to read in a "no data" limitation.

III. SUBSTANTIAL EVIDENCE SUPPORTS THE JURY'S INFRINGEMENT FINDING

The district court correctly held that substantial evidence supports the jury's finding that ZTE's accused products infringed the asserted patents. Appx61-64. Reviewing the record "in the light most favorable to [InterDigital] and giving it the advantage of every fair and reasonable inference," the court found sufficient evidence for the jury to conclude that the accused devices generate both the "preamble" and the "message" using the same code—*i.e.*, the same "sequence of chips or bits"—as required by the asserted claims and the court's construction. Appx58 (quoting *Marra v. Philadelphia Hous. Auth.*, 497 F.3d 286, 300 (3d Cir. 2007) (citation omitted), and citing *Williamson v. Consol. Rail Corp.*, 926 F.2d 1344, 1348 (3d Cir. 1991)); Appx61-63. The court accordingly denied ZTE's motion for judgment of non-infringement as a matter of law. Appx66.

ZTE contends (as it did before the district court) that the "preamble" and the "message" are generated using different codes. Blue Br. 54-67. According to ZTE, there is no substantial evidence to support the jury's contrary finding because the testimony of InterDigital's infringement expert (Dr. Jackson) is

(1) “conclusory,” (2) contrary to the testimony of InterDigital’s validity expert (Dr. Haas), and (3) outweighed by the testimony of ZTE’s expert (Dr. Kakaes). These arguments fail because they improperly ask this Court to reweigh the evidence and supplant the jury’s credibility determinations and findings with its own. *See Leader Techs.*, 678 F.3d at 1308 (court cannot “reweigh the evidence or supplant the record” with its own credibility determinations). That is particularly the case here, where Dr. Kakaes’ testimony was subject to repeated impeachments that were properly considered in the jury’s credibility determinations. The jury’s verdict is based on substantial evidence.

A. Substantial Evidence Supports The Verdict That The “Preamble” And “Message” Are Generated Using The “Same Code”

Far from “conclusory,” InterDigital’s infringement expert (Dr. Jackson) explained at length why ZTE’s accused devices meet the “same code” requirement. *See* Appx7217-7296 (362:4-441:10), Appx7311-7345 (456:3-490:21). As Dr. Jackson testified, the PRACH preambles (the successively transmitted signals) and the PRACH message (the subsequent message) sent by the accused devices are “both generated using [a] code ... called C long,1,n.” Appx7266 (411:17-21); *see also, e.g.*, Appx7266-7269 (411:22-414:7), Appx7261-7262 (406:20-407:9), Appx7265-7270 (410:19-415:24), Appx7272-7275 (417:18-420:24), Appx7322-7324 (467:12-469:20), Appx7326-7327 (471:7-472:24), Appx7333-7334 (478:1-479:21), Appx7343-7345 (488:23-490:21). Dr. Jackson testified that the accused

devices' "scrambling code generator" generates the first 4,096 chips of $c_{\text{long},1,n}$ for the PRACH preamble and then, after a pause, generates the next 38,400 chips of $c_{\text{long},1,n}$ for the PRACH message. Appx7268-7269 (413:14-414:7), Appx7327 (472:5-24); *see also, e.g.*, Appx7318-7319 (463:6-464:21), Appx7328 (473:1-14); Appx7330-7331 (475:3-476:18), Appx7340-7341 (485:14-486:18). Consequently, Dr. Jackson concluded that the PRACH preamble and message are both generated using the same $c_{\text{long},1,n}$ code (*i.e.*, the same "sequence of chips or bits"). Appx7270-7271 (415:7-416:5), Appx7327 (472:10-24), Appx7344-7345 (489:19-490:9); *see also* Appx7265 (410:1-416:5).

Dr. Jackson's analysis was based on, and confirmed by, the wireless standard that the accused products follow and the accused products' source code. *See, e.g.*, Appx7268-7270 (413:14-415:15), Appx7294-7296 (439:11-441:10). In addition, his analysis involved over 500 hours of work and was based on extensive testing. *See* Appx7252 (397:6-13), Appx7248 (393:11-14). Dr. Jackson's testimony alone constitutes sufficient evidence. *See Al-Site Corp. v. VSI Int'l, Inc.*, 174 F.3d 1308, 1316 (Fed. Cir. 1999) (holding testimony by an expert witness "constitutes sufficient evidence to sustain the jury's verdict").¹³

¹³ Dr. Jackson has a Ph.D. in electrical engineering from MIT. Appx7163-7164 (308:16-309:2).

In addition, Dr. Jackson's opinion was corroborated by engineering documentation from Qualcomm, which manufactures the baseband chip contained in the accused ZTE products. *See, e.g.,* Appx7231-7237 (376:7-382:4), Appx7268-7270 (413:14-415:15); *see also* Appx6973 (118:3-12), Appx7736 (881:21-24). According to Qualcomm, "the scrambling code for the RACH message corresponds to the *same* scrambling code that is used in the construction of the RCH preamble." Appx8617 (1762:8-11) (emphasis added) (quoting Appx17694); *see supra* at 17-19. And comments in the source code that Qualcomm developed for the accused devices confirm that a single "long scrambling code generator" comprising two 25-bit chip registers is used to produce the PRACH preamble and message sequences. Appx7269-7270 (414:8-415:15); *see also* Appx7329-7330 (474:16-475:24). Especially in view of this corroboration, Dr. Jackson's well-supported testimony provided more than sufficient evidence to support the jury's verdict of infringement.

ZTE concedes that, as Dr. Jackson testified, its products "use the same code generator [$c_{\text{long},1,n}$] to produce the Preamble Scrambling Code and the Message Part Scrambling Code." Blue Br. 62. That concession is dispositive: the preamble and message are generated using the "same code"—*i.e.*, the same sequence of chips or bits. ZTE nonetheless argues that Dr. Jackson's testimony is insufficient to show infringement because the preamble and message "are produced at different times,

in response to different code generation requests, in accordance with different sections of the 3GPP standard specification, ... have different lengths, and contain different values.” *Id.*

Those arguments miss the mark. The district court broadly construed “code” to mean a “sequence of chips or bits,” Appx43, and ZTE does not challenge that construction (instead largely ignoring it). ZTE’s non-infringement arguments, however, rely on requirements not found in the claims. Nothing in the district court’s construction suggests, for example, that two codes (the preamble and message) cannot be generated from different portions of the same sequence or that there cannot be a temporal “pause” between them.

Nor is there any basis in common parlance to impose such constraints. For example, a streaming media player can generate two sequences of video (a program and a commercial) from a single longer sequence (a continuous video data stream), a record player can generate two sequences of sounds (two separate songs) from a single longer sequence of sounds (the whole album), and school children can generate sequences of letters (“ABC” and “DEF”) from a single longer sequence (the alphabet). Each of those are examples where two sequences of data are generated from the same longer sequence of data. It is immaterial that they are generated from different portions the same sequence or that there might be a pause between them.

Likewise, ZTE's argument that Dr. Jackson improperly combined two separate codes in order to satisfy the "same code" limitation (Blue Br. 58-60) is unavailing. ZTE points to excerpts from Dr. Jackson's testimony where he stated that the standard did not use the combined value of the preamble and message codes (42,496) to describe the length of $c_{\text{long},1,n}$, and that he was unaware of a "device that adds [the preamble and message codes] together to the [42,496]." Blue Br. 60 (quoting Appx7327 (472:10-24)). ZTE similarly dismisses the Qualcomm documentation and source code comments, asserting that "none of those materials define the combined 42,496 binary values as a code." *Id.* But, again, that is not required under the district court's broad (and unchallenged) construction of "code" as a sequence of chips or bits. Appx43.

Dr. Jackson consistently testified that both the PRACH preamble and PRACH message are generated using the same $c_{\text{long},1,n}$ sequence. And that is corroborated by the Qualcomm documents, which describe the "preamble" and "message" codes as stemming from "the same scrambling code." *See supra* at 17-19. That is all the claims require. The jury credited Dr. Jackson's testimony and there is no basis to disturb that finding.

B. ZTE's Other Arguments Improperly Reweigh The Evidence

ZTE's other arguments are equally unavailing.

First, ZTE extensively quotes its infringement expert, Dr. Kakaes, who testified that the “same code” limitation is not met because “nowhere in the standard is there such a definition of a [42,496] long code.” Blue Br. 61-63 (quoting Appx8072 (1216:12-13)). However, as discussed, the court’s construction of “code” does not require any particular “definition” in the standard—it just requires a “sequence of chips or bits.” Appx43. Dr. Kakaes’ testimony was also subject to numerous impeachments. Appx8220-8221 (1364:4-1365:10), Appx8259-8266 (1404:16-1411:14). Dr. Kakaes conceded, for example, that (1) “per the 3GPP standard, the PRACH message is scrambled with the long scrambling code”; (2) the implementation of the scrambling code generator in the accused devices corresponds to the pertinent section of the 3GPP standard; and (3) the next “38,400 chips generated by using $C_{Long,1,n}$ are the real part of the scrambling code used to generate the PRACH message.” Appx8262-8267 (1407:7-1412:3). Even taking Dr. Kakaes’ testimony at face value, his concessions that the “first 4,096 chips” of $c_{long,1,n}$ “are used to generate a PRACH preamble,” and the next “38,400 chips ... are used to generate the PRACH message,” are sufficient to show infringement. Appx8265-8267 (1410:12-1412:3).

Regardless, as Dr. Jackson testified, the “same code” is $c_{long,1,n}$ because it is a sequence of chips or bits used to generate the preambles and the message, as described in the source code, the engineering documents used to design the source

code, and the wireless standard. Appx7265-7271 (410:1-416:5). The jury was entitled to accept Dr. Jackson's testimony over that of Dr. Kakaes and this Court cannot "substitute its choice for that of the jury between conflicting elements of the evidence" presented. *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 893 (Fed. Cir. 1984); *see also i4i Ltd. P'ship v. Microsoft Corp.*, 598 F.3d 831, 856 (Fed. Cir. 2010) (jury "was entitled to hear the expert testimony and decide for itself what to accept or reject"), *aff'd*, 564 U.S. 91 (2011).

Second, ZTE contends that InterDigital's validity expert, Dr. Haas, contradicted Dr. Jackson's testimony. Blue Br. 63-67. There is no contradiction. As part of his validity opinion, Dr. Haas testified about a prior art cellular standard that ZTE relied upon at trial, IS-95. IS-95 had a "code generator [that] would simply generate a sequence of chips or bits ... when you need it" after applying the appropriate "mask[]." Appx8311-8317 (1456:1-1462:19), Appx8332-8333 (1477:23-1478:12). Unlike in the accused devices, the prior art "code generator" did not generate the preambles and message from "one sequence of chips," but instead from "random[]" pieces of a code. Appx8333-8334 (1478:14-1479:10). And, Dr. Haas explained, those "random" parts of a code in the prior art could not be "retrospectively combined" and treated as the "same code" without rendering that claim limitation meaningless. Appx 8332-8334 (1477:23-1479:10), Appx8338-8339 (1483:5-1484:8); *see also* Appx8313-8317 (1458:11-1462:4).

That is consistent with Dr. Jackson's testimony that the PRACH preambles and message are generated from the same code where the first 4,096 chips of $c_{\text{long},1,n}$ are used for the preamble and then (after a pause) the next 38,400 chips of $c_{\text{long},1,n}$ are used for the message. Appx7265-7267 (410:1-412:17). That is, Dr. Jackson did not engage in the type of "retrospective[] combin[ation]" of "random" code sequences that, as Dr. Haas testified, was used in the prior art standard. Indeed, Dr. Haas made clear there was no conflict because the prior art standard (IS-95) did not teach the "same code" requirement, whereas the present standard (WCDMA) and the accused products satisfy that requirement—and it would be "simply incorrect" to compare them. Appx8332-8334 (1477:23-1479:10).

The jury and the district court rejected ZTE's assertion of a conflict between the testimony of Dr. Haas and Dr. Jackson. Appx62-63. That argument fares no better here. The jury ultimately agreed with and credited Dr. Jackson's testimony on the "same code" limitation, credited Dr. Haas's explanation of the differences between the current standard and the prior art standard, and found the power ramp-up patents were both infringed and valid over the prior art. Likewise, the district court agreed that the prior art standard Dr. Haas testified about and the WCDMA standard that Dr. Jackson testified about "operate differently, and it is not inconsistent to say that one code meets the 'same code' requirement and the other does not." Appx62-63.

This Court cannot reweigh the testimony and substitute its own findings for those of the jury. *See Leader Techs.*, 678 F.3d at 1308; *i4i Ltd. P'ship*, 598 F.3d at 856; *Perkin-Elmer Corp.*, 732 F.2d at 893. The district court properly declined to disturb the jury's infringement verdict.

CONCLUSION

The district court's judgment should be affirmed.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on February 27, 2017, I electronically filed the foregoing Brief of Appellees with the Clerk of the United States Court of Appeals for the Federal Circuit using the CM/ECF system, which will send notice of such filing to all registered CM/ECF users.

/s/ Maximilian A. Grant

Maximilian A. Grant

CERTIFICATE OF COMPLIANCE

I hereby certify that this brief complies with the type-volume limitations of Federal Rule of Appellate Procedure 32(a)(7)(B) and the Rules of this Court because the foregoing brief contains 11,980 words (excluding the parts of the brief exempted by Federal Rule of Appellate Procedure 32(a)(7)(B)(iii) and by Federal Circuit Rule 32(b)).

I further certify that this brief complies with the typeface requirements of Federal Rule of Appellate Procedure 32(a)(5) and the type style requirements of Federal Rule of Appellate Procedure 32(a)(6). This brief has been prepared in a proportionally spaced typeface using Microsoft Word in Times New Roman 14-point font.

/s/ Maximilian A. Grant

Maximilian A. Grant